

What is claimed is:

[Claim 1] 1. A pixel structure, comprising:

a substrate;
a scan line and a data line, disposed over the substrate;
a thin film transistor, disposed over the substrate, wherein the thin film transistor comprises a gate, a source and a drain such that the gate is electrically connected to the scan line and the source is electrically connected to the data line;
a pixel electrode, disposed over the substrate and electrically connected to the drain;
a contact block, disposed under the pixel electrode and electrically connected to the pixel electrode;
a first repairing pattern, disposed over the substrate, wherein one end of the first repairing pattern is positioned under the data line while the other end of the first repairing pattern is positioned under the drain;
a second repairing pattern, disposed over the substrate, wherein one end of the second repairing pattern is positioned under the data line while the other end of the second repairing pattern is positioned under the contact block; and
a dielectric layer, disposed over the substrate covering at least the first repairing pattern and the second repairing pattern.

[Claim 2] 2. The pixel structure of claim 1, further comprising a common line disposed over the substrate partially covered by the pixel electrode.

[Claim 3] 3. The pixel structure of claim 2, wherein the common line is connected to the first repairing pattern and the second repairing pattern, the common line has a cutting region adjacent to the junction between the common line and the first repairing pattern and the second repairing pattern.

[Claim 4] 4. The pixel structure of claim 3, wherein the cutting region over the common line has a width narrower than other section of

the common line so that the pixel electrode does not cover the cutting region.

[Claim 5] 5. The pixel structure of claim 3, wherein the pixel electrode comprises a recess region directly above the cutting region so that the pixel electrode does not cover the cutting region.

[Claim 6] 6. The pixel structure of claim 3, wherein the pixel electrode further comprises slits such that the slits at the junction between the common line and the first or the second repairing pattern serves as a cutting region.

[Claim 7] 7. A method of repairing the pixel structure claimed in claim 1, comprising the steps of:

fusing each end of the first repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain or fusing each end of the second repairing pattern using a laser beam so that the second repairing pattern connects with the data line and the contact block.

[Claim 8] 8. The method of claim 7, further comprising:

fusing each end of the first repairing pattern and each end of the second repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain, and the second repairing pattern connects with the data line and the contact block.

[Claim 9] 9. A method of repairing the pixel structure claimed in claim 3, comprising the steps of:

at least fusing each end of the first repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain or fusing the second repairing pattern using a laser beam so that the second repairing pattern connects with the data line and the contact block; and disconnecting the common line from the fused first repairing pattern or the second repairing pattern.

[Claim 10] 10. The method of claim 9, further comprising:

fusing each end of the first repairing pattern and the second repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain, and the second repairing pattern connects with the data line and the contact block; and

disconnecting the common line from the fused first repairing pattern and the fused second repairing pattern.

[Claim 11] 11. The method of claim 9, wherein the step of disconnecting the common line from the fused first repairing pattern and/or the second repairing pattern comprises:

forming an opening in the cutting region to expose the common line using a low-energy laser beam; and

cutting the common line exposed by the opening using a high-energy laser beam.

[Claim 12] 12. A method of repairing the pixel structure claimed in claim 4, comprising the steps of:

at least fusing each end of the first repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain or fusing the second repairing pattern using a laser beam so that the second repairing pattern connects with the data line and the contact block; and disconnecting the common line from the fused first repairing pattern or the second repairing pattern through the cutting region.

[Claim 13] 13. A method of repairing the pixel structure claimed in claim 5, comprising the steps of:

at least fusing each end of the first repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain or fusing the second repairing pattern using a laser beam so that the second repairing pattern connects with the data line and the contact block; and disconnecting the common line from the fused first repairing pattern or the second repairing pattern through the cutting region.

[Claim 14] 14. A method of repairing the pixel structure claimed in claim 6, comprising the steps of:

at least fusing each end of the first repairing pattern using a laser beam so that the first repairing pattern connects with the data line and the drain or fusing the second repairing pattern using a laser beam so that the second repairing pattern connects with the data line and the contact block; and disconnecting the common line from the fused first repairing pattern or the second repairing pattern through the cutting region.

[Claim 15] 15. A pixel structure, comprising:

a substrate;

a scan line and a data line, disposed over the substrate;

a thin film transistor, disposed over the substrate, wherein the thin film transistor comprises a gate, a source and a drain such that the gate is electrically connected to the scan line and the source is electrically connected to the data line;

a pixel electrode, disposed over the substrate and electrically connected to the drain;

a common line, disposed over the substrate such that the pixel electrode covers a portion of the common line, wherein the common line adjacent to the data line serves as a repairing section, the repairing section comprises a first repairing terminal, a second repairing terminal and a cutting region, the first repairing terminal and the second repairing terminal are disposed under the data line and the cutting region is disposed between the first repairing terminal and the section of the common line that does not extend along the data line, and the pixel electrode does not cover the cutting region; and a dielectric layer, disposed over the substrate covering at least the common line.

[Claim 16] 16. The pixel structure of claim 15, wherein the cutting region has a width narrower than other section of the common line so that the pixel electrode does not cover the cutting region.

[Claim 17] 17. The pixel structure of claim 15, wherein the pixel electrode comprises a recess region directly above the cutting region so that the pixel electrode does not cover the cutting region.

[Claim 18] 18. The pixel structure of claim 15, further comprising slits such that the slits extend over the cutting region so that the pixel electrode does not cover the cutting region.

[Claim 19] 19. A method of repairing the pixel structure claimed in claim 15, comprising the steps of:

fusing the first repairing terminal and the second repairing terminal of the repairing section using a laser beam so that the repairing section connects with the data line; and

cutting the common line within the cutting region to disconnect the repairing section from other common line sections.